Global Product Strategy (GPS) Safety Summary

ACEPHATE 75% SP

This GPS Safety Summary is a high-level summary intended to provide the general public with an overview of product safety information on this chemical substance. It is not intended to provide emergency response, medical or treatment information, nor to provide an overview of all safety and health information. This summary is not intended to replace the Safety Data Sheet. For detailed guidance on the use or regulatory status of this substance, please consult the Safety Data Sheet and the Product Stewardship Bulletin (PSB).

Chemical Identity

Name: Acephate 75% SP
Brand names: Orthene
Chemical name (IUPAC): *N*-[methoxy(methyl sulfanyl) phosphoryl]acetamide
CAS number: 30560 -19-1
EC number: 206-542-3.
Molecular formula: $C_4H_{10}NO_3PS$

Uses and Applications

Acephate is an important insecticide and is widely used in the agriculture industry for control pests on various crops. It is primarily used to protect crops like cotton, fruits & vegetables, tobacco, and ornamentals from a variety of insects.

The largest use of Acephate is in the control of sucking insects' pests such as aphids, whiteflies, leafhoppers, and mealybugs, which can damage plants by feeding on their sap. It is also effective against certain chewing insects like caterpillars and beetles. Acephate works by inhibiting the nervous system of pests, leading to their death.

Another significant application of Acephate is in the treatment of termite infestations, as it is effective in controlling subterranean and drywood termites. Acephate is sometimes used in structural pest control, both indoors and outdoors, to protect buildings from these wood-damaging pests.

In addition to its agricultural and pest control applications, Acephate is used in limited amounts as a research tool for studying insect neurobiology and resistance mechanisms, due to its ability to affect the nervous system of insects. While Acephate remains widely used in pest management, its use is regulated due to concerns about potential toxicity to humans, animals, and the environment. As a result, proper application techniques and safety measures are crucial for minimizing risks associated with its use.

Physical / Chemical Properties

At ambient temperature Acephate is a White colour power, Stench Odor, the substance is of relatively low molecular weigh and Acephate is non-flammable under normal conditions. The flash point of Acephate is >200°C (392°F), meaning it does not easily ignite at standard temperatures Boiling Point: The boiling point of Acephate is approximately 160°C (320°F) at 760 mmHg and freezing Point: The freezing point of Acephate typically around about 92-93 °C.

Health Effects

Acephate is classified under GHS as hazardous for acute toxicity, single exposure target organ toxicity (nervous system), and developmental/lactation toxicity, fetal development, and causing organ damage.

The table below gives an overview of the health effects assessment results for Acephate.

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Acutely toxic via the oral, dermal and inhalation routes of exposure. The central nervous system, blood, and eyes are the primary targets of toxicity, with symptoms ranging from mild irritation to severe systemic effects,
Irritation / corrosion Skin / eye/ respiratory tract	irritating to skin but may cause mild eye irritation
Sensitization	Not a Skin Sensitizer
Toxicity after repeated exposure Oral / inhalation / dermal	Repeated exposure to Acephate, whether via oral, inhalation, or dermal routes, poses health risks primarily related to neurotoxicity due to acetylcholinesterase inhibition.
Genotoxicity / Mutagenicity	limited genotoxic risk
Toxicity for reproduction	potential for reproductive toxicity at high exposure levels, it is generally considered safe

Environmental Effects

Acephate 75% SP Toxic to aquatic life under the Globally Harmonized System (GHS) due to its potential to cause harmful effects in aquatic ecosystems.

The table below gives an overview of the environmental assessment results for Acephate.

Effect Assessment	Result
Aquatic Toxicity	Toxic to aquatic life under the Globally Harmonized System (GHS) due to its potential to cause harmful effects in aquatic ecosystems.

Fate and behaviour	Result
Biodegradation	Moderately biodegradable
Bioaccumulation potential	Low Bioaccumulation potential
PBT / vPvB conclusion	not classified as PBT or vPvB

PBT = Persistent, Bio-accumulative and Toxic in the environment.
vPvB = very Persistent and very Bio-accumulative in the environment.

Exposure

Human health

When using products containing Acephate at home or in professional settings, it is critical to follow all instructions and precautions provided on the label. Adequate ventilation should always be ensured, and Acephate-containing products should never be used near open flames or other sources of ignition.

General Guidelines for Use:

- Always read and understand the safety instructions for products containing Acephate before use.
- Ensure proper ventilation when applying Acephate to minimize inhalation risks.
- Avoid skin and eye contact and wear appropriate personal protective equipment (PPE) such as gloves, goggles, and protective clothing to reduce the risk of exposure.

Exposure in Manufacturing Facilities: In facilities where Acephate is used as a chemical intermediate, the potential for exposure is typically low, as most operations (such as storage, handling, and processing) are conducted in enclosed environments. However, worker exposure may still occur during activities like product transfer, sampling, or maintenance on equipment containing Acephate.

- The risk of accidental exposure should be minimized through the use of controlled processes and by implementing suitable Risk Management Measures, including proper ventilation, regular monitoring, and the use of appropriate PPE.

Environment

Acephate is manufactured through a controlled and automated process to minimize environmental impact. The transfer (loading and transport) of Acephate is carried out using dedicated equipment and containers to prevent any accidental release or spillage. Strict safety measures and containment protocols are implemented to ensure that Acephate does not enter the environment during production, storage, or distribution.

Discharge into the environment must be avoided.

Prevent further leakage or spillage if safe to do so.

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages cannot be contained.

Risk Management Measures

For detailed guidance on the use of Acephate 75% SP, the Safety Data Sheet and the Product Safety Bulletin should be consulted.

Acephate 75% SP should be handled only by knowledgeable and trained personnel.

Flammability
Acephate is non-flammable under normal conditions

Human health

- Ventilation & PPE: Ensure adequate ventilation when handling Acephate. Always wear chemical-resistant gloves, eye protection (e.g., goggles), and flame-retardant clothing to minimize exposure.
- Hygiene: Do not eat, drink, or smoke in areas where Acephate is stored or used. After contact, wash hands and skin thoroughly. If the substance comes into contact with eyes, rinse with water for at least 15 minutes and seek medical attention immediately.
- Transfer & Maintenance: During transfer or maintenance operations, always clear transfer lines, flush or drain to a closed system for recycling, and ensure equipment is securely closed before opening to prevent exposure.
- Additional Risk Management: If engineering controls cannot maintain airborne concentrations below exposure limits or there is a risk of accidental exposure, employ additional protective measures, such as a complete chemical suit, supplied air, or self-contained breathing apparatus (SCBA).

Environmental

In case of accidental release or spill, do not allow the product to enter sewers, surface or ground water.

Regulatory Information / Classification and Labelling

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59).	: Not Applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not Applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not Applicable
REACH - List of substances subject to authorization (Annex XIV)	: Not Applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	Not Applicable

Conclusion Statements

- ✓ The largest use of Acephate is in the control of sucking insects' pests such as aphids, whiteflies, leafhoppers, and mealybugs, which can damage plants by feeding on their sap. It is also effective against certain chewing insects like caterpillars and beetles. Acephate works by inhibiting the nervous system of pests, leading to their death.
- ✓ Acephate is classified under GHS as hazardous for acute toxicity, single exposure target organ toxicity (nervous system), and developmental/lactation toxicity, fetal development, and causing organ damage.
- ✓ Exposure of workers and the environment is considered Moderately as the Acephate storage and handling operations are enclosed.

Contact Information within Company

For further information on this product in general, please consult the Coromandel International limited corporate website (https://www.coromandel.biz/)

Date of issue

Date of issue: 03 April 2025.

Disclaimer

The above information is intended to give general health and safety guidance on the storage and transport of the substance or product to which it relates. The requirement or recommendation of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate. No liability will be accepted for any injury loss or damage resulting from any failureto take account of information or advice contained in this safety data sheet.

End of GPS Sheet